AMENDMENTS TO THE CLAIMS

Applicants submit below a complete listing of the current claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing. This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of the Claims

1.   (Currently Amended) A method for transmitting digital messages through output terminals of a monitoring circuit integrated to a microprocessor on execution of an instruction sequence by the microprocessor, each digital message being representative of characteristic data stored by the monitoring circuit on detection of a specific event from ~~among several~~ a plurality of specific events in the execution of the instruction sequence, ~~one of said characteristic data corresponding to an identifier of said specific event,~~ the method comprising:

comparing characteristic stored data of a specific event having an identifier with characteristic stored data of a last previously detected specific event ~~corresponding to a~~ having the same identifier to determine whether the specific event and the last previously detected specific event are identical;

[[if]] when it is determined that the specific event and the last previously detected specific event ~~compared characteristic data~~ are identical, incrementing a repetition counter associated with said specific event; and

[[if]] when it is determined that the specific event and the last previously detected specific event ~~compared data~~ are different[[,]]:

transmitting a digital message representative of the data characteristic of the specific event through at least one output terminal of the monitoring circuit; and,~~further,~~

[[if]] when content of the repetition counter associated with said specific event is different from zero, transmitting a digital message indicating a number of repetitions of the specific event, the number of repetitions is determined by a value of the repetition counter.

2.   (Canceled)

3. (Currently Amended) The method of claim 1, further comprising resetting the repetition counter associated with said specific event after transmission of [[a]] the digital message indicating a repetition a number of repetitions of the specific event.

4. (Currently Amended) The method of claim 1, in which wherein the characteristic data comprise [[the]] a number of instructions executed by the microprocessor between the last two detected specific events.

5. (Currently Amended) The method of claim 1, in which wherein the specific event is a jump in the instruction sequence executed by the microprocessor and the last previously detected specific event corresponding to has the same identifier in a last detected jump.

6. (Currently Amended) The method of claim 5, in which wherein the characteristic stored data of the specific event comprise data representative of an address of a destination instruction of the jump and the characteristic stored data of the last previously detected specific event comprise data representative of an address of a destination instruction of the last detected jump.

7. (Currently Amended) The method of claim 1, in which wherein the specific event is a read or write instruction in the instruction sequence executed by the microprocessor.

8. (Previously presented) The method of claim 1, further comprising:

transmitting a digital message indicating a repetition of the specific event if the content of the repetition counter associated with said specific event is greater than a determined threshold; and

setting the repetition counter associated with said specific event to zero.

9.   (Currently Amended)   A device for transmitting digital messages between a monitoring circuit integrated with a microprocessor and an analysis tool, on execution of an instruction sequence by the microprocessor, comprising:

means for detecting a specific event from ~~among several~~ a plurality of specific events in the execution of the instruction sequence, the specific event having an identifier;

means for storing data characteristic of the detected specific event, ~~one of said characteristic data corresponding to an identifier of the specific event~~;

means for transmitting a digital message representative of the stored characteristic data;

means for comparing the characteristic data of the detected specific event with characteristic ~~stores~~ data of a last previously detected specific event ~~corresponding to~~ having the same identifier to determine whether the detected specific event and the last previously detected specific event are identical; and

means for incrementing a repetition counter associated with said detected specific event and indicating a number of repetitions of the detected specific event when the comparison means provides a signal indicating that the ~~compared characteristic data~~ detected specific event and the last previously detected specific event are identical;

wherein the transmission means is ~~capable of~~ configured to:

transmitting, through at least one output terminal of the monitoring circuit, a message representative of the data characteristic of the detected specific event when the comparison means provides a signal indicating that the ~~compared characteristic data~~ detected specific event and the last previously detected specific event are different[[,]]; and

transmitting a digital message indicating a repetition of the detected specific event when the incrementation means provides a signal indicating that content of the repetition counter associated with said detected specific event is different from zero.

10.   (Original)   The device of claim 9, in which the incrementation means is further capable of setting the repetition counter associated with said specific event to zero when the transmission means transmits a digital message indicating a repetition of the specific event.

11.   (Previously Presented) The device of claim 9, wherein the digital message indicating the repetition of the detected specific event comprises the content of the repetition counter associated with said specific event.

12.   (Previously Presented) The device of claim 9, further comprising means for resetting the repetition counter associated with the detected specific event after transmission of the digital message indicating the repetition of the specific event.

13.   (Previously Presented)   The device of claim 9, wherein the characteristic data comprise the number of instructions executed by the microprocessor between the last two detected specific events.

14.   (Previously Presented) The device of claim 9, wherein the detected specific event is a jump in the instruction sequence executed by the microprocessor and the last previously detected specific event corresponding to the same identifier in a last detected jump.

15.   (Previously Presented) The device of claim 14, wherein the characteristic stored data of detected the specific event comprise data representative of an address of a destination instruction of the jump and the characteristic stored data of the last previously detected specific event comprise data representative of an address of a destination instruction of the last detected jump.

16.   (Previously Presented) The device of claim 9, wherein the specific event is a read or write instruction in the instruction sequence executed by the microprocessor.